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EFFECTS OF DIETARIES ON THE HUMAN BODY.

[From the London Lancet.]

IN the Poor-Law inquiry the medical witnesses may throw much light upon the pauper dietaries. Nor should medical practitioners deem these collateral questions, affecting the poor, out of their province. Set apart as guardians of the public health, they are bound to investigate the effects of bad and insufficient food—a common cause of disease, constantly at work amongst the great masses of the population. Indeed, we feel convinced that where an opportunity occurs of observing a system of dietaries carried out on a large scale, and enforced by public authority, the result will be watched with solicitude. For the health of the poor, as well as the interests of society, is concerned, and the whole may be considered as a great physiological experiment, conducted at the public expense, in which physiologists have only to observe facts, and to deduce general results.

Prout, Thomson, Magendie, Tiedemann, Gmelin, Eberle, Mueller and Schwann, have traced the chemical changes which food undergoes in digestion; and have, to a certain extent, completed the labors of their great predecessors. It is well established, that free muriatic acid is always present in the stomach during digestion; and Eberle discovered a principle, called *pepsine*, which has the singular property of dissolving organic matter in a much higher degree than diluted acids. A solution of pepsine is obtained by steeping the mucous membrane of any animal's stomach in an acid solution; the solution dissolves coagulated albumen, muscular fibre, and all animal matter of this class. One grain of digestive matter dissolved in an experiment 100 grains of the coagulated white of egg, so that the pepsine acts by contact, like a ferment, or in the same manner as rennet, which, in the minutest quantity, coagulates milk.—*Müller's Archives*, 1836, *Heft* 1.

Animals live on organic matter; and Prout reduces the nutriment of all the higher animals to three classes:—(1.) The *saccharine*—sugar, starch, gum, &c.; (2.) The *oleaginous*—oil and fat, &c.; (3.) The *albuminous*—animal substances, and vegetable gluten. Bodies of the saccharine class contain carbon, combined with oxygen and hydrogen, in the proportion to form water; the proportion of carbon varies, in different specimens, from 30 to 50 per cent. of their weight. The carbon makes 60 to 80 per cent. of oleaginous bodies; and, as the quantity of carbon may be fairly regarded as a measure of the nutritive property,

fat and oil are esteemed exceedingly nutritious. By a wonderful provision of Nature, milk, the food of young animals, contains the three elements of food—sugar, butter, and casein (cheese).

The simple alimentary elements exist in different proportions in the various substances used for food; and different kinds of food are nutritious in proportion to the quantity of alimentary matter which they yield when exposed to digestive fluid. Saw-dust, although it contains the same elements as sugar, is not equally nutritious, and, from the same reason, tough meat is less nutritious than tender meat.

The human body consists of a great number of elements, contained in different proportions in different kinds of food. Different kinds of food are demanded, for the body is incessantly taking up or giving off all its organic elements, and vitality is suspended unless the supply of every element be equal to the demand. Magendie fed dogs on sugar, containing no nitrogen, and distilled water. The animals were in good spirits for the first week; in the second they grew thinner, and in the third lost flesh, strength, spirits and appetite. The cornea ulcerated, and the humors of the eye escaped. Instead of eight ounces of sugar they took no more than three or four, and died, unable to crawl, in 31—34 days. Fed on gum, they died in the same manner; fed on olive-oil, they continued well for a fortnight, but died in 36 days; the cornea did not ulcerate in these cases. Tiedemann and Gmelin confirmed Magendie's researches. Of three geese fed separately on sugar, gum and fecula (starch), the first died on the 22d, the second on the 16th, the third on the 24th day. Magendie ascribed death in these circumstances to the want of nitrogen; but other experiments show that the higher animals can scarcely live on any one kind of food. A goose lived only 46 days on coagulated white of egg. In these experiments it must be recollected that dogs will live from 25 to 36 days without meat or drink; and that all animals bear the privation of food for a certain number of days and weeks. When an animal has been fed on one kind of food, and reduced, it does not recover, though a natural varied diet be restored.

The form of the teeth, and the fact that mankind almost invariably take animal and vegetable food, speak plainly enough in favor of animal as well as vegetable diet. The mechanism of alimentation, and the quantity of food taken by a person in health, will be best understood by an example. We shall take the case of Dr. Dalton, given by himself, in the "Memoirs of the Manchester Philosophical Society." It was written in 1830; the experiments were performed 47 years ago, when the venerable philosopher was in the full vigor of life. As the average of 14 days, the following was the daily consumption of food:—

Oz.		Oz.
12	bread (.30) containing	3.6 carbon
7	oat-cake and meal	1.8
4	pastry	1.0
9	potatoes	1.0
4	butcher's meat	3.0
2	cheese	
31	milk (.03)	0.92
22	tea and beer	a small fraction.
91		
Total daily		11 1-2

11½ ounces of carbon entered the system daily ; ½ ounce of carbon escaped in 48½ ounces of urine, ½ ounce in 5 ounces of fæces daily, leaving 10½ ounces unaccounted for. From other experiments Dalton ascertained that he produced by breathing, in the space of 24 hours, 2.8 pounds troy, of carbonic acid=containing 10½ ounces avoirdupois of carbon, making, with ½ ounce exhaled by the skin, 10½ ounces. The aqueous vapor exhaled by the lungs was found to be 20½ ounces. These excretions amounted to 84½ ounces daily, leaving, of 91 ounces, 6½ ounces to escape in cutaneous perspiration. An ounce and a half of nitrogen taken every day in the cheese and butcher's meat, was ejected, with various salts, in the fæces and urine.

Six pounds of matter entered the system daily ; five pounds were water, one was carbon and nitrogen ; 1-18th passed off in fæces, one half in urine, 1-6th by the skin, 5-6th by the lungs, the rest in insensible perspiration. Secretion is constantly going on ; vapor is always exhaling ; carbon is circulating and burning incessantly in the textures of the body ; and man only lives so long as these chemical and physical changes take place. The steam engine will not work without fuel ; without food the human heart ceases to beat, the breast to heave, the muscles to contract, the brain to think.

To keep the living machine in motion, food is required in a given quantity ; if withheld for a certain time, vital action ceases, never to recommence ; and if supplied only to a limited extent, the intensity and mean duration of life are equally diminished. The kind and quantity of food on which life can be sustained for the longest time in the best health, are indicated by the appetite ; and the quantity which all animals consume when the supply is unlimited, furnishes the best measure of their wants.

It is of great public importance to determine accurately the average amount of food that men require, and the extent to which health deteriorates and mortality increases with every degree of degradation in the dietary. Several observations exist, and several standards are adopted, in the public services ; but a physiological problem of so much practical importance deserves full investigation. Of the kind and quantity of food actually consumed at different ages, by different classes and in different circumstances, all over the country, medical practitioners may, with a little trouble, inform the Poor-Law Committee. Nor will it be impossible for them to trace out the connection of bad and insufficient diet with scrofula, dropsies, bowel complaints, fevers and other forms of disease ; or to determine how far diseases are induced, or rendered longer and more dangerous, by low diet. The great fatality of inflammations supervening in a reduced state of the system, has lately been firmly established by Louis. This did not, moreover, escape the Greeks, who studied diet with more assiduity than drugs.

The English and French troops supply themselves with food ; but lest they should reduce their strength by not procuring sufficient solid substance, each man is supplied with rations of bread and butcher's meat, at a low, fixed price. The military rations in England are 16 ounces of bread, and 16 ounces of beef or mutton, daily. In France they are 8½

ounces of butcher's meat, and 26 ounces of bread. Vegetables, and other less important articles, they procure themselves. If one fourth be taken from the meat for loss in cooking, the French rations will contain, according to Dalton's mode of calculation, 11 ounces of carbon; the English will lose 10.8 ounces; but the English soldier has 3 ounces of nitrogen in his meat. The work-house dietaries vary considerably. The Dudley and City of London dietaries are instances, as will be observed in the following statements:—

DUDLEY UNION DIET TABLE FOR ABLE-BODIED MALE PAUPERS.

"On three days of every week:—21 ounces of bread, $3\frac{1}{2}$ ounces of cheese, and $1\frac{1}{2}$ pint of gruel, per diem.

"On one other day:—20 ounces of bread, $1\frac{1}{2}$ ounce of cheese, $1\frac{1}{2}$ pint of soup, and $1\frac{1}{2}$ pint of gruel.

"On two other days:—5 ounces of cooked meat, 1 pound of potatoes or other vegetables, 14 ounces of bread, $1\frac{1}{2}$ ounce of cheese, and $1\frac{1}{2}$ pint of gruel.

"On one other day:—4 ounces of bacon, 1 pound of potatoes or other vegetables, 14 ounces of bread, $1\frac{1}{2}$ ounce of cheese, and $1\frac{1}{2}$ pint of gruel."

THE CITY OF LONDON UNION DIET TABLE FOR MALE ADULTS.

"On three days in the week, daily, 7 ounces of cooked meat, beef or mutton; $\frac{3}{4}$ of a pound of vegetables, 1 pound of bread, 2 ounces of cheese, $\frac{1}{2}$ pint of milk porridge, a pint of beer at dinner and a pint at supper.

"On three other days (instead of meat), $1\frac{1}{2}$ pint of soup (made on a good allowance of materials), and a single pint of beer. Other articles (except vegetables), the same as on the three former.

"On remaining day, instead of meat or soup, 1 pound of suet pudding; or, boiled rice, with milk and sugar; a pint of beer at dinner and a pint at supper. Other articles the same as the last mentioned three days."

The Dudley guardians declared the former dietary to be insufficient for the miners and forgemmen in their district, and adopted the same dietary as the City of London. The Dudley dietary may be best examined in the subjoined form:

	Weekly oz.	Daily average.	Carbon oz.	Nitrogen oz.
Bread	125	18	5.4	
Oatmeal (for gruel)	14	2	.5	
Potatoes	48	7	.8	
Meat, bacon, cheese	29	4	2.0	1.0
	<hr/> 216	<hr/> 31	<hr/> 8.7	<hr/> 1.0

The Dudley dietary contains nearly $8\frac{3}{4}$ ounces of carbon, or three fourths of the carbon in Dr. Dalton's diet and the military rations. The workhouse diet would furnish 75 per cent. of the ordinary quantity of carbonic acid formed in the human machine. When this matter was discussed, recently, in the House of Lords, the opinion of a physician was cited on the subject of the dietary; and Lord Melbourne met the

arguments of the Bishop of Exeter by a denunciation, not only of this opinion in particular, but of medical opinions generally :—

“ With respect to the case of Dudley itself,” his lordship said, “ he was not prepared to go into a discussion of it. Thus much, however, he must say, that he had no great opinion of the views of medical men on a subject of this kind ; their sentiments on a question of this nature were, in his judgment, the worst that could be attended to. A medical man was more conversant with a fit and proper diet for sick persons than for those who were in health, and every body knew that even with reference to that, medical men differed very widely in their views and opinions, and in his (Viscount Melbourne’s) judgment the best test for such a dietary was the test of experience.”

If Lord Melbourne had said that the opinions of military or naval men in professional matters were contradictory, and of no value—if he had used the same language with reference to lawyers, or parsons, twenty noble lords would have been on their legs in a moment to protest against the gratuitous attack. The Premier’s sarcasm in the present case was unprovoked, and sure to meet with no retort ; but was the statement just ? Cervantes narrates a story in which the governor of a certain island, seated at the dinner table, was highly incensed with one Dr. Pedro Positive, who waved a white wand, and motioned away every delicacy which his Excellency selected. Governor Panza consigned the doctor forthwith to a dungeon, and addressed him (not his profession) in unmeasured terms of condemnation as a conspirator against his life. It is easy to conceive a Prime Minister under such circumstances, hard pressed and mortified, giving vent to the taunt ascribed to Lord Melbourne. But no doctor in the House of Lords attempted to place a restraint on the Premier’s appetite, or to say that he should not have any morceau that he might fancy, from a truffle to a *rognon broché*. The only declaration made was, that the poor men in the workhouse of Dudley were not allowed sufficient food to sustain health—a humane and timely announcement. Lord Radnor is reported to have said, in the same debate, that—

“ He could not at present compare the diet of a man in the workhouse with the diet of a man employed, in full labor, at Dudley ; but he was prepared with a comparison between the diet a man received in the Dudley workhouse, and that of certain persons who had undergone sufferings of no ordinary kind. He (Lord Radnor) begged to contrast the diet which the Dudley men, in the workhouse, consumed, with that which had been consumed by an adventurous body of men who had been subjected to much heavier labors—he alluded to the crew of Capt. Parry in their expedition to the North Pole. Each man in that expedition, in the most inclement season, and at the highest latitude they had reached, had less food, by several ounces, than the Dudley paupers ; even the female pauper in Dudley workhouse had 20 per cent. more solid food a week than each man received in that northern expedition, commanded by Capt. Parry. He (Lord Radnor) could not but consider the complaint, contained in the petition, perfectly groundless.”

The “ Voyages ” of Captain Parry are fraught with interesting phy-

biological facts, and in all the voyages that he made, the subject of food received special attention. Captain Parry, in his published works, dwells on the unbounded liberality with which all the supplies were furnished, by the Government, for his crew.

Lord Radnor refers to the short period of 61 days spent in the boats and on the ice, in the *inclement season* extending from June 22 to August 21, 1827. Twenty-eight men, including Captain Parry, attempted to approach the North Pole; they had to carry their provisions; the least possible quantity was taken; it was a *tour de force*, made by strong, hardy-bodied men. Provision was taken for seventy-one days. The daily allowance for each man was biscuit, made by Mr. Lemann, 10 ounces; beef pemmican, 9 ounces; sweetened cocoa powder, 1 ounce; rum, 1 gill; with 3 ounces of tobacco weekly. Pemmican is made by drying thin slices of meat over the smoke of wood fires; pounding it, and then mixing it with nearly an equal weight of its own fat. An excellent thing is that pemmican. It contains a large proportion of nutriment in a small compass. The 21 ounces contained little less than 11 ounces of carbon, besides 2 ounces of nitrogen, without taking into account the carbon in a gill of concentrated rum. Five pounds of flour will scarcely make 5 pounds of biscuit, while it will make 7 pounds of common bread. In Lord Radnor's calculation, biscuit is confounded with bread, and pemmican with potatoes. The allowance, however, on this short expedition, was found to be insufficient, as will be seen in the following extracts from the journal of the voyage.

"June 22nd. The expedition started.

"July 6th. We served out an extra ounce of bread, and one of pemmican for supper; an addition to the allowance which we were frequently obliged to make afterwards, to prevent our going to bed hungry."
—P. 74.

The travellers met with several helps by the way.

"July 9th. We again allowed ourselves a hot supper, having shot eight or nine birds since our last."

This only whetted the general hunger, and when a bear appeared on the 1st of August, his flesh was prospectively consigned to the cooking kettle. The prospect was, however, clouded by Bruin's escape. Not so always:—

"August 7th. A fat she-bear crossed over a lane of water to visit us, and was killed by Lieutenant Ross. Before the animal had done biting the snow, one of the men was alongside of her, with an open knife, and, being asked what he was about to do, replied, that he was going to cut out her heart and liver to put into the pot, which happened to be then boiling for our supper. In short, before the bear had been dead an hour, all of us were employed, to our great satisfaction, in discussing the merits, not only of the said heart and liver, but a pound, per man, of the flesh; *besides which, some or other of the men were constantly frying steaks during the whole of the day, over a large fire made of the blubber.*"

We beg the reader to glance, with Lord Radnor, from "this adventurous body of men" to the Dudley workhouse, where forgermen are,

or were, luxuriating on 18 ounces of bread, 7 ounces of potatoes, and 4 ounces of hard cheese, meat or bacon, with water gruel, daily :—

"Notwithstanding these excesses at first, we were really thankful for this additional supply of meat; *for we had observed, for some time past, that the men were evidently not so strong as before, and would be the better for more sustenance.*"—P. 115.

"August 10th. Another bear came towards the boats, and was killed. We were now so abundantly supplied with meat, that the men would have eaten again immediately, had not the necessary authority interposed to prevent them. As it was, our encampment became so like an Esquimaux establishment, that we were obliged to shift our place, in the course of the day, for the sake of cleanliness and comfort."—P. 117.

"August 11th. We quitted the ice, after having taken up our abode upon it forty-eight days.

"August 21st. We were received on board after sixty-one days' (not seventy-one) absence."

As in the experiments, so here, the men did not immediately recover when the supply of food was abundant.

"We had all become, in a certain degree, gradually weaker for some time past; but only three men of our party now required medical care, two of them *with badly swelled legs, and general debility*, and the other from a bruise."

On Monday last Lord Radnor stated, in the House of Lords, that a number of paupers in the Dudley workhouse fell sick, and that a suspicion arose that the illness was simply dyspepsia, caused by over-feeding!!

MERCURY.

FROM SIGMUND'S LECTURES ON THE MATERIA MEDICA.

[Continued from page 363.]

THE two salts formed by the combination of chlorine with mercury, are those to which I shall at present call your attention, because they are the most important preparations of that metal which are employed, and have been the subject of the most earnest investigations both by chemists and physicians. Hydrargyri chloridum of the present Pharmacopœia is the submurias hydrargyri, the murias hydrargyri mitis, the mercurias dulcis sublimatus, the calomelas, the protochloridum hydrargyri of other pharmacopœias, and the well-known calomel in common acceptance; it is composed of one equivalent of mercury and one equivalent of chlorine. The hydrargyri bichloridum is the hydrargyri oxymurias, the hydrargyri muriatus, the mercurius corrosivus sublimatus, the deuto-chloridum of different pharmacopœias, and the corrosive sublimate of the old English dispensaries, and is composed of two equivalents of chlorine and one of mercury. Nothing can be more injudicious than the great number of alterations which have taken place in the nomenclature of chemistry, and no salts have undergone such a variety

of changes as these have done, to the great inconvenience of medical science and to the detriment of society. Professor Brande has very properly observed—"It is very inconvenient to alter pharmaceutical terms, according to the changes in chemical nomenclature; and as physicians in practice have not come to accord on this particular, I can see no objection to the term calomel for one substance, and corrosive sublimate for the other, pharmaceutically speaking." It is a subject of great regret that the attempt should be made, because it can never be successful; for some chemists call calomel protochloride, others chloride, and some denominate sublimate, perchloride, others deutochloride, and others again—as does the Royal College of Physicians—bichloride. As physicians have not yet generally made the alteration in their prescriptions, no accidents have, as yet, occurred; but I shall not be surprised, notwithstanding the increased intelligence of those who make up medicines, if mistakes be made. In Paris, a physician prescribed four grains of the protochloride for three children, the eldest of whom was seven years of age; the apprentice committed the fatal error of using corrosive sublimate, the consequence of which was, the unhappy father was, in one day, rendered childless. The young man, who was thus the instrument of death, was sentenced to a month's imprisonment, and condemned to pay 2000 francs to the father. Nor did the master of the youth escape punishment, for he was ordered to pay the same sum to the father, and likewise a penalty of fifty francs for not keeping a poison under lock and key. But in Brussels a still more extraordinary circumstance took place. Dr. Sentes, a physician of very high character and long standing, prescribed for the child of a friend in this manner:—*Murias hydrargyri*, gr. iij. The apothecary, on whom Dr. Sentes called, made up a packet containing three grains of corrosive sublimate, and he himself placed it in the hands of the doctor, making no observation. The latter gentleman mixed the powder with syrup and gave it to the child, whose death it produced, with all the symptoms usually attendant upon this poison. The family prosecuted the physician, but the court at Brussels declared that there was no cause for proceedings. On the appeal, however, of the Attorney-General, the affair was referred to another tribunal, and M. de Fontenelle, of Paris, was appointed to decide what is the *murias hydrargyri*. In some of the older dispensatories, calomel was called the mild muriate, in contradistinction to the corrosive. It was expressed, *hydrargyrum muriatum mitius*, whilst the corrosive sublimate was called *hydrargyrum muriatum*. You may imagine that carelessness might produce mischief in prescribing and omitting the word *mitius*; but what are we to think of the care and accuracy of the learned men of the day, if there was actually an edition allowed to go out to the profession with the omission of this most important word? Such, however, is recorded to have been the case.

The alchemists, in their vain attempts to discover the philosopher's stone, made various experiments with the spirit of sea-salt, the hydrochloric acid of the present day, upon mercury, and they discovered and gave descriptions of the two preparations upon which pharmaco-

logists afterwards made their various experiments. Bergmann examined them with great minuteness, but he arrived at no sound conclusions; he neither ascertained their chemical constitution nor did he comprehend the difference between them. It is to the French chemist, Berthollet, we are indebted for the knowledge we possess of their distinctive characters, and the state of combination of the acid and the metal; it is upon the oxide of the metal, and not upon the mercury itself, that the acid exerts its power.

Various have been the processes for forming these two salts. Bergmann has described a great number. The present formula of the Pharmacopœia is founded upon the old process of Kunckel, which was revived by Boulduc, and is said to afford the purest bichloride of mercury. It is thus given:—Take of mercury two pounds, sulphuric acid three pounds, chloride of sodium a pound and a half; boil the mercury with the sulphuric acid in a proper vessel, until the bipersulphate of mercury remains dry; rub this, when it is cold, with the chloride of sodium in an earthen mortar; then sublime with a heat gradually raised. In this instance, after the sublimation of the bichloride of mercury, pure sulphate of soda remains only at the bottom. Fourcroy has pointed out other preparations, such as the one from the mixture of equal parts of sulphate of iron and chloride of sodium, acted upon by violent heat, which is still followed in the large manufactories of Holland; another, which is very quickly performed, and does not expose the persons employed to the danger from vapor, is the pouring hydrochloric acid upon a nitric solution of the metal and evaporating the liquor; the acid of the nitre disengages itself in the form of vapor, and the liquid, when cooled, deposits regular and pure crystals of corrosive sublimate. These are in form of a number of needles lying close to each other, appearing to be tetrahedral and compressed. There seem to be various shaped crystals obtained, but Mr. Phillips says, the cleavages in the crystals of this substance are parallel to the lateral and to the terminal planes of a right rhombic prism of 93 degrees 44 minutes, which, therefore, may be regarded as the primary form. Physicians and chemists have compared the terminal points to the beards of feathers and to sword blades, and explained the effects of corrosive sublimate upon the animal economy by their mechanical action; and Dr. Mead thus gives his theory:—“These crystals are to be considered as so many sharp knives, or daggers, wounding and stabbing the tender coats of the stomach, and abrading their natural mucus, and irritating their nervous lining, upon which convulsions and vomitings, with excessive pain, must follow, and the bloodvessels being, at the same time, parched, all the adjacent parts will be inflamed.” It liquefies by heat; it possesses a considerable degree of volatility, from which circumstance, and its corroding power, it received the name of corrosive sublimate. It is completely soluble in water and in sulphuric æther. The notes of the Pharmacopœia observe, “that whatever is thrown down from water, either by solution of potash or lime water, is of a reddish color; or, if a sufficient quantity be added, it is yellow: this yellow substance, by heat, emits oxygen, and runs into globules of mercury. Its composition is not changed by

the action of air, but it loses, upon exposure, some degree of its transparency, becomes white, opaque and pulverulent. If placed upon the tongue, it has a *styptic*, strong, and even horrible taste, leaving, for some time, a most disagreeable sensation in the mouth. If this be propagated to the fauces and larynx there is a strangulating sensation which remains for a considerable length of time ; so that no one could swallow it in any form capable of irritating the stomach without being aware of it ; hence an attempt to poison by it must at all times be known.

The immediate sensation thus conveyed has, indeed, upon more than one occasion, prevented fatal consequences, and this was the case with the celebrated chemist Thenard, who, whilst delivering his lecture, inadvertently swallowed a small quantity of a solution which he mistook for water contained in a similar glass, from which he was in the habit of refreshing his mouth. He immediately perceived his error, and as it was a concentrated solution of corrosive sublimate, great alarm was excited ; but as the discovery of Orfila had been recently made of the power of white of eggs as an antidote, he immediately procured some, and was fortunate enough, by such means, to escape injury. A similar case is recorded where a gentleman, by mistake, drank a portion of an alcoholic solution of the mineral, but was so alarmed at the taste that he did not finish it. He was, however, seized with a sense of tightness in the throat, burning at the stomach and purging. Orfila saw him two hours afterwards, when the symptoms had acquired the greatest severity ; they were, however, mitigated, and the patient ultimately saved by the administration of the white of egg, which converts the corrosive sublimate into calomel. Peschier states that the white of one egg will render no less than four grains of corrosive sublimate innocuous. The action upon the stomach and intestines of this violent poison is of the most distressing and agonizing character, and hence this warning of danger becomes of the greatest consequence. The sensations in the throat and gullet, and the constriction, are almost diagnostic symptoms, and they sometimes continue throughout the stages, and mortification of the throat has been known to be the principal injury sustained, where attempts have been made vainly to swallow this salt in its solid state. The intestinal canal exhibits, after death, the ravages that have been committed ; they are corroded, rendered sphacelous, and parts which have been touched by it fall off in gangrenous sloughs. The older chemists, who were fully acquainted with the terrible effects of this preparation, ascribed, without reason, its power to the presence of the hydrochloric acid. For the best details of the poisonous influence of corrosive sublimate, and for the destructive characters by which you are to judge of the power you possess of discriminating it from arsenic or from the hydrochloric acid, I must refer you to the best book in our language upon poisons, that of Dr. Christison, which is the text-book for any course of lectures on medical jurisprudence embracing the important branch of toxicology.

The usual dose which practitioners employ is at first the eighth of a grain, which has been increased to a quarter of a grain, and it is generally given in the form of a pill made with crumb of bread ; it is like-

wise given in solution, and there is in the Pharmacopœia a solution of bichloride of mercury, the liquor hydrargyri bichloridi, which is composed of ten grains of the bichloride and a similar quantity of hydrochlorate of mercury dissolved in a pint of distilled water, so that each ounce contains a half a grain of the salt; in the former directions spirit was ordered to be added, but the muriate or hydrochlorate of ammonia is now preferred for increasing the solvent power of the fluid; the dose of this is from half a drachm to two drachms. Some people are so exceedingly sensitive that a very minute quantity of this preparation will produce the most alarming symptoms; it therefore demands very great care and attention in prescribing it. Three grains of corrosive sublimate, divided into three doses, and taken at long intervals, have been the cause of profuse salivation; at the same time recovery has taken place from actual poisoning, where enormous doses have been taken; it is recorded that as much as half an ounce was swallowed; that both bloody vomiting and purging ensued, but that the individual escaped with life. The very extraordinary property possessed by the bichloride of mercury of entering into union with liquid mercury was very early known to the alchemists, but the preparation which is the result, and which I have now to speak to you of, under the name of chloride of mercury or calomel, was not known, as it has been stated, to Paracelsus, although it has been called his laudanum. There were two laudanums called after that extraordinary man, one was redoxide of mercury; the other composed of chloride of antimony and other ingredients; the recipe is extant. Which of the two was the one that has obtained the great reputation I know not, but its character was owing to a cure effected by him, and loudly spoken of throughout Europe. Albertus Basa, physician to the King of Poland, consulted Paracelsus, when he was Professor at the University of Basle, upon the case of a patient. The Professor went to his bed-side and found him in the last stage of exhaustion, and the Polish physician declared it impossible to keep him many hours alive. Paracelsus gave the dying man three drops of his laudanum, and invited him to dine the following day, to the great astonishment of the persons surrounding him. The invitation was accepted, and the patient actually dined with his physician. The preparation of the mild muriate, or chloride of mercury, was kept a profound secret. Oswald Crolius, a Rosicrucian of great enthusiasm, boasts, in his "Basilica Chemica," that he can keep the secret concealed. Angelus Sela seems to have been acquainted, however, with it, and speaks even of its medical properties. In 1608, Beguin, in his "Tyroconium Chemicum," describes it with great accuracy, and calls it draco mitigatus. It appears to have obtained a vast variety of names; it is said to have been called calomel from the Greek word signifying handsome black, as it was prepared by a black slave of singular beauty; it was also named "draco mitigatus," "aquila mitigata," from the mildness which it was supposed to communicate to corrosive sublimate, the draco ferrox. It was also known under the names of "manna metallorum panacea," "panchymagoga quercetani."

[To be continued.]

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BOSTON, JULY 18, 1838.

CEMETERIES OF BOSTON.

BURIAL fields, which our forefathers supposed they had located, in most instances, in the outskirts of towns, in the progress of ages, in nearly all the oldest cities in this country, are now in the very midst of the living. Had these pioneers of civilization in the wilderness of America, who were proverbially wise in whatever regarded the liberty, health and general prosperity of the people, contemplated the future growth of cities out of the small beginnings of a cluster of fishing huts, they would undoubtedly have buried their dead beyond the probable boundaries of a dense population. But since these sacred resting places of those who have gone down to the grave, are now surrounded by our dwellings, and both custom and law still favor the accumulation of bodies in these great receptacles, it is important that we should practise the best possible system of sanitary police in regard to them, with reference to the wellbeing of those residing in their vicinity. It is no part of our design to discuss the question, often adverted to in this Journal, about the propriety or expediency of interdicting burials in cities altogether; although we unhesitatingly declare that it is high time a legislative act should forever forbid another interment within the twelve wards of the metropolis of New England.

If anything can obviate the bad effects which a vast mass of putrescent animal matter, in various stages of decomposition, has a tendency to produce, the measures now in successful operation, in Boston, offer a partially counteracting influence. We allude particularly to the refined taste of planting a multitude of trees and shrubbery among the tombs. The Granary presents a delightful aspect, with its waving foliage. How much it may modify the character of the exhalations arising from hundreds of deep, dark, humid vaults, cannot be estimated. That something is produced, favorable to the condition of the living, will not be denied. Nearly all the old yards, with the single exception of the one here alluded to, are truly sear and barren places, naked and treeless, and therefore the more to be feared.

Under the judicious management of Mr. Hewes, the new cemetery on the Neck, between Roxbury and Boston, exhibits, in gratifying combinations, the skill of an artist and the discretion of a philosopher. The tombs being partially above ground, a rapid escape of noxious effluvia takes place, which in all the others is sealed up in pits, to be let loose, by the sexton, in volumes whenever one of them is opened. Next, the Southend cemetery is not only elegantly laid out in squares, divided by lanes, beautifully bordered with an infinitude of elegant flowers, but a rich variety of thrifty trees cluster together over the neatly swept paths, which actually renders them delightful walks, wholly divested of the ordinary gloom that pertains to the habitations of the dead. This beautiful enclosure should be visited to be appreciated—and it should be protected, too, by the municipal authorities, and always be in the process of being made better and more highly ornamented.

The superintendent of burial grounds, while exerting himself to produce a specimen of what a cemetery should be in town, if one is to be tolerated, has unconsciously raised a chaste and beautiful monument to his own memory.

The Philosophy of Medicine.—Dr. Ticknor's excellent production, which was the subject of a former notice in this place, several weeks ago, seems to be gaining admirers amongst a class of readers which would gratify the pride of any author. As it was not exclusively fitted to the precise meridian of medical men, but made plain to the understanding of every order, its success, as a standard work, is no longer involved in doubt. To undeceive the deceived multitudes who are cajoled by a high-handed phalanx of empirics, and show them clearly how egregiously they are imposed upon by knaves, who build up splendid fortunes by the sale of secret mixtures called medicines, which the inventors would never think of swallowing themselves, is, indeed, a bold and philanthropic undertaking. The more we study Dr. Ticknor's plan of reasoning, the more we are convinced of its being the only method which has been devised for eventually overthrowing the nefarious quackery of this country. Intelligent people are those which he addresses; and from such alone is that influence to radiate which must ultimately revolutionize the popular vulgar opinion. Should another edition be demanded—and there can scarcely be a doubt of it—we should, above all things, admire to see Brandreth and Evans, of New York, the two emperors of modern quacks, whose increasing riches are drawn from fools, dressed in appropriate costume.

Diseases of the Teeth.—From the press of Messrs. Gould & Newman, of New York, we have been presented with a plain, sensibly-written octavo treatise, of ninety-six pages, entitled "Observations on the Structure, Physiology, Anatomy and Diseases of the Teeth," in two parts—the first by Harvey Burdell, M.D., and the second by John Burdell, dentist. In the first place, the book presents a popular view of all that is known about the diseases of these necessary, indispensably necessary organs, and rends the veil which has enveloped the whole mystery of the manufacture of the incorruptible mineral teeth, about which some of the least scientific operative dentists have been quacking half a dozen years, as a pretext for enormous charges, on account of the terrible expense of making them. Part second is by far the most valuable division of the book—full of drawings and sterling practical remarks. If five or six thousand could be distributed through the country and introduced into families, much benefit would be derived from the perusal. Not one of a thousand have the least kind of knowledge in relation to the structure or diseases of the teeth; nor does the dentist reach one in ten thousand, in the interior of the country, who would be essentially benefited by this excellent and seasonable production. It is valuable above almost any manual of the kind we have seen for a long time, because it shows, to the most common understanding, how the teeth may be preserved in good condition in childhood and age.

Medical Doings in Congress.—For the purpose of showing the untiring obtrusiveness of the Thomsonian steamers, the following sketch of

the mode in which an effort was made to steal a march on Congress, whilst legislating, recently, for the District of Columbia, is given in detail—a scrap worth preservation for future historical reference.

After acting upon a number of private bills, the House took up the bill to revive an act to incorporate the Medical Society of the District of Columbia.

A motion was made to lay this bill on the table.

Petrikín hoped that that motion would be withdrawn to enable him to present a remonstrance against the bill, which he took from his pocket. [A general laugh.]

The chair said that such a proceeding would not be regular.

The amendments proposed being read,

Petrikín asked to have the remonstrance he had alluded to read also. This was refused.

Mr. P. then opposed the bill. He had practised medicine for twenty-one years, and he would like the people of the country to know who were for establishing monopolies, and who were not. Mr. P. then proceeded to read the remonstrance he held in his hand, which, so far as the reporter could hear its contents, appeared to be a defence of the Botanic or Thomsonian, against the alleged monopoly of the regular, system.

Reed made a few observations in favor of the bill. It was proper to protect the people of the District against the hawbaggery of quack doctors.

Bouldin, Chairman of the Committee on District Affairs, said a few words in favor of the bill.

Taylor made some statements in relation to the danger of unlicensed and uneducated practitioners of medicine, and offered an amendment to the bill, requiring of the practitioner to produce a certificate of having gone through a proper course of medical study.

Boon was opposed to what he called this abominably aristocratic bill. Nine-tenths of the time he had rather trust himself in the hands of an old woman with her herbs, than in those of the regular practitioners.

After a few words in support of the bill by Mallory, the amendments were concurred in.

An ineffectual attempt was made to lay the bill on the table.

The bill was then ordered to be read a third time, Petrikín having failed to obtain the yeas and nays.

Having been read a third time, the bill was passed.

Catalogues of Medical Colleges wanted.—If some member of the faculty of each of the following medical institutions will have the goodness to forward to the address of the Boston Medical and Surgical Journal—with all the necessary corrections where there have been new appointments or recent resignations—the last printed catalogues, it will very greatly oblige:—University of Pennsylvania, Philadelphia; College of Physicians and Surgeons, New York; Dartmouth College, Hanover, N. H.; University of Maryland, Baltimore; College of Physicians and Surgeons of the Western District, Fairfield, N. Y.; Medical Institution of Yale College, New Haven, Conn.; Transylvania Medical Institution, Lexington, Ky.; Medical College of Ohio, Cincinnati; Vermont Medical Academy, Castleton; Medical School of Maine, Brunswick; Medical College of South Carolina, Charleston; Jefferson Medical College, Philadelphia; University Medical School of Virginia, Char-

lottesville ; Washington Medical College, Baltimore, Md. ; Medical College of Georgia, Augusta ; Medical College of Louisiana, New Orleans ; Medical Institution of Geneva College, Geneva, N. Y. ; Medical Department of Cincinnati College, Cincinnati, Ohio ; Vermont Medical College, Woodstock, Vt. ; Willoughby Medical Department, Chagrine, Ohio.

The day the lecture term commences, the price of each professor's ticket, matriculation fee, duration of the course, the cost of graduation, and the time degrees are conferred, are also items of importance. Unless the above information is transmitted within a few weeks, it can be of no service. It is important to the interest of each institution that the editor of the Journal should be in possession of the facts.

Milk Sickness.—The Governor of Kentucky has offered a premium of \$1000 for the discovery of the origin of a disease bearing the above cognomen, in that State, represented to be as malignant as the cholera—having already destroyed hundreds. It has appeared also in Indiana and Ohio.

Climate of New York, Massachusetts and Vermont.—Our old friend Dr. J. A. Gallup, has this season had an opportunity of witnessing the difference in time of the expansion of the apple blossom (which probably indicates correctly the difference in seasons) on the western side of Long Island, in Northampton, and in Woodstock. In the first place the blossoms were fully expanded on the 16th of May, in Northampton on the 22d of May, and in Woodstock on the 4th of June—making a difference of eighteen days between the expansion at Long Island and Woodstock, and six days between that at Northampton and Long Island.

Mode of obtaining Creosote.—The following is an economical method of obtaining creosote, proposed by M. Cozzi. A quantity of tar is distilled in an alembic, and the products collected in a cylindrical vessel half filled with water. The products are acetic acid, cussion, parafin, and creosote, which latter is recognized by its specific gravity. The impure creosote is isolated from the other products by means of a syphon, and on this being done sulphuric acid, weakened with one half water, is added ; the creosote now mounts to the surface of this fluid, which is warmed by an admixture of boiling dilute sulphuric acid, and the supernatant fluid is drawn off and placed in an open-mouthed bottle, one-third filled. This is exposed to the air for three days, and the product again distilled, when a reddish fluid is obtained. The latter having been treated thrice in a similar manner furnished pure creosote, limpid as water, of 1.007 specific gravity, and boiling at 205 degrees R.—*Journal de Chem. Med.*, May, 1838.

Tubercles.—It has not yet been proved that the presence of tubercles in the lungs of children, even to a considerable degree, presents a contra-indication to the performance of capital operations. M. Rufz has seen amputations of the leg and thigh in children, succeed very well, although persons well exercised in the practice of auscultation had discovered tubercles in the lungs.—*Lancet*.

TO CORRESPONDENTS.—Dr. Toothaker requests us to state that No. 10 of his articles on Medical Botany will be delayed a week or two, for the further examination of a specimen lately received by him from a gentleman in the western part of the State.

Whole number of deaths in Boston for the week ending July 14, 24. Males, 9—females, 15.

Consumption, 4—croup, 1—liver complaint, 1—typhous fever, 1—drusus on the brain, 1—old age, 2—infantile, 1—lung fever, 1—intemperance, 2—pericarditis, 1—fits, 1—drinking cold water, 1—scrofula, 1—apoplexy, 1—scarlet fever, 1—cancer of the womb, 1—hooping cough, 1—stillborn, 1.

BERKSHIRE MEDICAL INSTITUTION.

The annual Course of Lectures for 1838, in this Institution, will commence on the 23d of August (the last Thursday but one in the month) and continue thirteen weeks.

The pre-requisites for admission to an examination for the Degree of Doctor of Medicine are, three full years' study under a regular practitioner of medicine; attendance on two full courses of medical lectures, one of which must have been at this school; a defensible thesis on some subject connected with medical Science; an adequate knowledge of the Latin language, and a good moral character. Gentlemen who intend to present themselves as candidates for a Degree are particularly requested to procure full and formal certificates of time.

By legalizing the study of Anatomy, the Legislature of Massachusetts has furnished its Schools with superior advantages for Practical Anatomy. It has also, by this provision, most effectually guarded the sepulchres of the dead from all violation.

Theory and Practice of Medicine, by	HENRY H. CHILDS, M.D.
Botany, Chemistry and Natural Philosophy, by	CHESTER DEWEY, M.D.
Principles and Practice of Surgery, by	WILLARD PARKER, M.D.
Materia Medica and Pathological Anatomy, by	ELISHA BARTLETT, M.D.
Obstetrics, by	DAVID PALMER, M.D.
Anatomy and Physiology, by	ROBERT WATTS, JR., M.D.
Legal Medicine, by	HENRY HUBBARD, Esq.

Fee for the Course of Lectures, \$50. Fee for those who have already attended two full courses at an incorporated medical school, \$10. Graduation fee, \$18. Fellows of the Massachusetts Medical Society, and others who have received the Degree of Doctor of Medicine, are admitted gratuitously to the lectures.

Pittsfield, Mass., 20th June, 1838.

tAug23

R. WATTS, JR., Dean of the Faculty.

MEDICAL INSTRUCTION.

THE subscribers are associated for the purpose of giving a complete course of medical instruction, and will receive pupils on the following terms:

The pupils will be admitted to the practice of the Massachusetts General Hospital, and will receive clinical lectures on the cases they witness there. Instruction, by lectures or examinations, will be given in the intervals of the public lectures, every week day.

On Midwifery, and the Diseases of Women and Children, and on Chemistry, by	DR. CHANNING.
On Physiology, Pathology, Therapeutics, and Materia Medica, - - - - -	DR. WARE.
On the Principles and Practice of Surgery, - - - - -	DR. OTIS.
On Anatomy, - - - - -	DR. LEWIS.

The students are provided with a room in Dr. Lewis's house, where they have access to a large library. Lights and fuel without any charge. The opportunities for acquiring a knowledge of Anatomy are not inferior to any in the country.

The fees are \$100—to be paid in advance. No credit given, except on sufficient security of some person in Boston, nor for a longer period than six months.

Applications are to be made to Dr. Walter Channing, Tremont Street, opposite the Tremont House, Boston.

WALTER CHANNING,
JOHN WARE,
GEORGE W. OTIS, JR.
WINSLOW LEWIS, JR.

Oct. 18—1f

MEDICAL INSTRUCTION.

THE subscribers have associated for the purpose of giving medical instruction. A convenient room has been provided for this purpose, which will be open to the students at all hours. They will have access to an extensive medical library, and every other necessary facility for the acquirement of a thorough medical education.

Opportunities will be offered for the observation of diseases and their treatment in two Dispensary districts, embracing Wards 1, 2 and 3, and in cases which will be treated at the room daily.

Instruction will be given by clinical and other lectures, and by examinations at least twice a week. Sufficient attention will be paid to Practical Anatomy.

For further information, application may be made at the room, over 103 Hanover street, or to the subscribers.

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HENRY G. CLARK, M.D.
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Boston, August 9, 1837.

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